

Title (en)
METHOD AND DEVICE FOR RAMAN SPECTROSCOPIC IN-OVO SEX DETERMINATION OF FERTILIZED AND INCUBATED BIRD EGGS

Title (de)
VERFAHREN UND VORRICHTUNG ZUR RAMANSPEKTROSKOPISCHEN IN-OVO GESCHLECHTSBESTIMMUNG VON BEFRUCHTETEN UND
BEBRÜTETEN VOGELEIERN

Title (fr)
PROCÉDÉ ET DISPOSITIF POUR LA DÉTERMINATION IN-OVO DU SEXE D'OEUF D'OISEAUX FERTILISÉS ET COUVÉS PAR
SPECTROSCOPIE RAMAN

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Application
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Abstract (en)
[origin: CA2953813A1] The invention relates to a method for the Raman spectroscopic, in ovo sex determination of fertilised and incubated birds' eggs (1), wherein the embryo, including the extra-embryonic structures, can move in the egg, and is not yet attached to the shell at the time of measuring. In addition, the following steps are carried out: monitoring the time course of the incubated egg until at least one recognisable blood vessel (21) is formed; creating a hole (2) in the shell in the region near to the attached blood vessel, using a hole-generating unit; finding the blood vessel forming in the egg using a vision system (19, 13) and a coaxial or lateral illumination with light (10a) in the visible wavelength range; positioning at least one blood vessel in the laser focus of a laser source (3), either by moving the egg or moving a lens (6) of a device (5) for introducing the laser light (3a), and detecting the Raman scattered radiation (7); registering the Raman scattered radiation of the irradiated blood vessel using the device for introducing the laser light, and for detecting the Raman scattered radiation, wherein, during the measuring process, a movement of the blood vessel out of the focus can be avoided by tracking using the vision system; evaluating the Raman scattered radiation in an evaluation unit; determining and displaying the sex of the embryo in the bird's egg.

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